General

Guideline Title

Screening for chronic obstructive pulmonary disease: U.S. Preventive Services Task Force recommendation statement.

Bibliographic Source(s)

U.S. Preventive Services Task Force. Screening for chronic obstructive pulmonary disease: U.S. Preventive Services Task Force recommendation statement. JAMA. 2016 Apr 5;315(13):1372-7. [18 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Screening for chronic obstructive pulmonary disease using spirometry: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med 2008;148:529-34. [13 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the Levels of Certainty regarding Net Benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

Summary of Recommendation and Evidence

The USPSTF recommends against screening for chronic obstructive pulmonary disease (COPD) in asymptomatic adults. (D recommendation)

Clinical Considerations

Patient Population Under Consideration

This recommendation statement applies to asymptomatic adults who do not recognize or report respiratory symptoms (see Figure 2 in the original guideline document). It does not apply to at-risk persons who present to clinicians with symptoms such as chronic cough, sputum production, dyspnea, or wheezing. It also does not apply to persons with a family history of α_1-antitrypsin deficiency.

Risk Assessment

Exposure to cigarette smoke or toxic fumes increases the risk for COPD. Epidemiological studies have found that 15% to 50% of smokers

develop COPD. More than 70% of all COPD cases occur in current or former smokers. Occupational exposure to toxins, dusts, or industrial chemicals contributes an estimated 15% of all COPD cases. Environmental pollution, including wood smoke and traffic pollutants, is also associated with increased risk for COPD. Nonmodifiable risk factors for COPD include history of asthma or childhood respiratory tract infections and α_1-antitrypsin deficiency.

Screening Tests

Screening adults in primary care involves either risk assessment via a formal prescreening questionnaire and, if positive, follow-up with diagnostic spirometry testing or screening spirometry administered without a bronchodilator and, if positive, follow-up with diagnostic spirometry testing. Patients identified as high risk by a prescreening questionnaire or screening spirometry are referred for diagnostic spirometry testing. Diagnosis by spirometry requires persistent airway obstruction after administration of an inhaled bronchodilator, such as albuterol (i.e., postbronchodilator spirometry). COPD is diagnosed when the patient has a postbronchodilator FEV_1/FVC ratio of less than 0.70. Severity is defined by the percentage of predicted postbronchodilator FEV_1; 80% or more is mild, 50% to 79% is moderate, 30% to 49% is severe, and less than 30% is very severe.

Other Approaches to Prevention

Prevention of exposure to cigarette smoke and other toxic fumes is the best way to prevent COPD. Interventions to prevent the initiation of tobacco use are an effective way to prevent exposure to cigarette smoke. Current smokers should receive smoking cessation counseling and be offered behavioral and pharmacological therapies to stop smoking.

Useful Resources

The USPSTF recommends that clinicians ask all adults, including pregnant women, about tobacco use and provide tobacco cessation interventions for those who use tobacco products (see the National Guideline Clearinghouse [NGC] summary of the USPSTF guideline Behavioral and pharmacotherapy interventions for tobacco smoking cessation in adults, including pregnant women: U.S. Preventive Services Task Force recommendation statement). The USPSTF also recommends that clinicians provide interventions, including education or brief counseling, to prevent initiation of tobacco use in school-aged children and adolescents (see the NGC summary of the SUPSTF guideline Primary care interventions to prevent tobacco use in children and adolescents: U.S. Preventive Services Task Force recommendation statement). These recommendations and their supporting evidence are also available on the USPSTF Web site (http://www.uspreventiveservicestaskforce.org).

Definitions

What the United States Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read "Clinical Considerations" section of USPSTF Recommendation Statement (see the "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

Grade	Grade Definitions	Suggestions for Practice

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as: • The number, size, or quality of individual studies • Inconsistency of findings across individual studies • Limited generalizability of findings to routine primary care practice • Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: • The limited number or size of studies • Important flaws in study design or methods • Inconsistency of findings across individual studies • Gaps in the chain of evidence • Findings not generalizable to routine primary care practice • A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Chronic obstructive pulmonary disease (COPD)

Guideline Category

Prevention

Screening

Clinical Specialty

Family Practice

Internal Medicine

Preventive Medicine

Pulmonary Medicine

Intended Users

Advanced Practice Nurses

Physician Assistants

Physicians

Respiratory Care Practitioners

Guideline Objective(s)

To update the 2008 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for chronic obstructive pulmonary disease (COPD) in asymptomatic adults

Target Population

Asymptomatic adults who do not recognize or report respiratory symptoms

Note: The recommendations do not apply to at-risk persons who present to clinicians with symptoms such as chronic cough, sputum production, dyspnea, or wheezing. It also does not apply to persons with a family history of α_1-antitrypsin deficiency.

Interventions and Practices Considered

Screening for chronic obstructive pulmonary disease (COPD) (not recommended)

Major Outcomes Considered

- Key Question 1: Does screening asymptomatic adults 40 years and older for chronic obstructive pulmonary disease (COPD) with prebronchodilator screening spirometry improve health-related quality of life (HrQOL) or reduce morbidity or mortality?
    a. Does the effect of screening among asymptomatic adults vary across strategy (i.e., selective subgroups [age, presence of certain comorbid conditions, sex, race/ethnicity, smoking history, or others] vs. general population)?
- Key Question 2: Can high-risk asymptomatic adults who are more likely to test positive on screening for COPD be reliably identified using prescreening questionnaires?
- Key Question 3: What is the test performance of screening pulmonary function tests (e.g., prebronchodilator screening spirometry, peak flow [PEF] meter) in predicting diagnosis of COPD in asymptomatic adults, based on confirmation with postbronchodilator spirometry to identify fixed airflow obstruction?
- Key Question 4: What are the adverse effects of screening for COPD with prescreening questionnaires or screening pulmonary function tests?
- Key Question 5: Does identifying asymptomatic adults with fixed airflow obstruction through screening improve the delivery and uptake of targeted preventive services?
    a. Does screening for COPD increase smoking cessation rates among asymptomatic adults compared to usual care?
    b. Does screening for COPD increase relevant immunization rates among asymptomatic adults compared to usual care?
- Key Question 6: What are the adverse effects of COPD screening, including the impact of targeted preventive services in this population (e.g., false reassurance for screen-negative smokers)?
- Key Question 7: Does treatment for asymptomatic adults identified with mild to moderate COPD through screening improve HrQOL or

reduce morbidity or mortality?
- Key Question 8: What are the adverse effects of COPD treatment in this population?

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Kaiser Permanente Research Affiliates Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Sources and Searches

Searches included MEDLINE, PubMed, the Cumulative Index to Nursing and Allied Health Literature, and the Cochrane Central Register of Controlled Trials from January 2000 to January 2015, supplemented by checking reference lists from relevant systematic reviews. Evaluating the effect of a chronic obstructive pulmonary disease (COPD) diagnosis on pneumococcal and influenza immunization rates was a new question to this review; therefore, databases were searched from inception through January 2015. Since January 2015, the reviewers have has continued to conduct ongoing surveillance through article alerts and targeted searches of high-impact journals to identify major studies published in the interim that may affect the conclusions or understanding of the evidence and therefore the related USPSTF recommendation. The last surveillance was conducted on January 22, 2016, and identified no new studies.

Study Selection

Two reviewers independently reviewed 13,141 unique citations and 465 full-text articles against a priori inclusion criteria (see Figure 2 and eMethods in the systematic review). For KQs 1 through 6, the reviewers initially considered studies including asymptomatic adults 40 years and older (limited to current smokers for KQ5a). For questions 7 and 8, the reviewers restricted the population further to include only asymptomatic adults 40 years and older who were also diagnosed with mild COPD (forced expiratory volume in 1 second [FEV_1] ≥80% normal) to moderate COPD ($FEV_1$50%-79% normal) or a mean population FEV_1 greater than or equal to 60% predicted to approximate a population of mild to moderate COPD. Asymptomatic patients were defined as those in 1 of the following states: free of the disease; the disease is present, but the patient has physical symptoms that are undetected by the patient or the clinician; or the patient has nonspecific symptoms that have gone unrecognized as being related to COPD. For KQs 2 and 4, the reviewers analyzed COPD prescreening questionnaires feasible in primary care with published studies describing their original development, internal validation, and external validation; results are reported only for COPD screening questionnaires with external validation, which is the minimal requirement for consideration in clinical practice. For KQ2, the initial search was for risk factor–only based screening questionnaires, which would capture an asymptomatic population. However, because none were identified, risk factor- and symptom-based prescreening questionnaires were included. For KQ3, the reviewers examined primary care-feasible screening pulmonary function tests (e.g., handheld devices or prebronchodilator testing requiring minimal personnel training).

For the treatment questions, the search included treatment efficacy literature for the following COPD drug classes or combinations of any of the following: long-acting β-agonists (LABAs), long acting anticholinergics, and inhaled corticosteroids (ICS). Because there were no trials in screen-detected or asymptomatic populations, the included population was expanded to those diagnosed with mild to moderate disease because observational studies show that 84% to 95%of screen-detected patients are expected to have mild to moderate COPD.

Number of Source Documents

There were 19,225 citations identified through the literature database searches with 465 full-text articles assessed for eligibility. See the flow

diagram (Figure 2) in the systematic review (see the "Availability of Companion Documents" field) for a summary of evidence search and selection.

Articles included for Key Questions:

- Key Question 1: 0 articles
- Key Question 2: 16 articles (14 studies)
- Key Question 3: 5 articles (5 studies)
- Key Question 4: 7 articles (7 studies)
- Key Question 5: 10 articles (5 studies)
- Key Question 6: 1 article (1 study)
- Key Question 7: 19 articles (11 studies)
- Key Question 8: 8 articles (8 studies)

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Two reviewers independently assessed the methodological quality of each study using predefined criteria developed by the U.S. Preventive Services Task Force (USPSTF) and supplemented with National Institute for Health and Care Excellence (NICE) methodology checklists for observational studies and the Quality Assessment of Diagnostic Accuracy Studies (QUADAS I and II) tool for diagnostic accuracy (see Appendix A, Table 2 in the Evidence Synthesis [see the "Availability of Companion Documents" field]). Each study was given a final quality rating of good, fair, or poor.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Kaiser Permanente Research Affiliates Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Extraction and Quality Assessment

One reviewer extracted study-level data into standardized evidence tables; a second checked for accuracy. Articles meeting inclusion criteria were critically appraised by 2 independent reviewers using predefined criteria with disagreements resolved by a third investigator. Included studies were limited to those published in English that were rated as good or fair quality using USPSTF quality rating standards. (Details are available in eTables 1 and 2 in the systematic review.)

Data Synthesis and Analysis

Data from the included studies were qualitatively examined to identify a range of results. Given the clinical heterogeneity of studies, meta-analyses were not conducted for any of the questions in this review.

For studies of diagnostic accuracy, 2 × 2 tables were constructed from data reported in the primary studies. When 95% confidence intervals (CIs) were not reported for diagnostic accuracy estimates, these intervals were calculated using Jeffrey CIs (Stata version 13.1). For diagnostic accuracy studies, in addition to the standard test performance characteristics (area under the receiver operating characteristic [ROC] curve, sensitivity, specificity, positive predictive value [PPV], negative predictive value [NPV]), the Task Force calculated the following outcomes: chronic obstructive pulmonary disease (COPD) prevalence in the population, percentage of patients screening positive, false-positive rate, and the percentage of missed cases.

Methods Used to Formulate the Recommendations

Balance Sheets

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

U.S. Preventive Services Task Force Recommendation Grid*

Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative
High	A	B	C	D
Moderate	B	B	C	D
Low	Insufficient			

**A*, *B*, *C*, *D*, and *Insufficient* represent the letter grades of recommendation or statement of insufficient evidence assigned by the USPSTF after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field.

The overarching question that the USPSTF seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the USPSTF considers indirect evidence. To guide its selection of indirect evidence, the USPSTF constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

1. Do the studies have the appropriate research design to answer the key question(s)?
2. To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
3. To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
4. How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
5. How consistent are the results of the studies?
6. Are there additional factors that assist the USPSTF in drawing conclusions (e.g., presence or absence of dose–response effects, fit within a biologic model)?

The next step in the USPSTF process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the USPSTF's overall assessment of evidence was described as good, fair, or poor. The USPSTF realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the USPSTF has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term certainty will now be used to describe the USPSTF's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important to note that the USPSTF makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The USPSTF must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that one of the key questions in the analytic framework refers to the potential harms of the preventive service. The USPSTF considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the USPSTF assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The USPSTF would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of Recommendations" field). The USPSTF would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see the "Availability of Companion Documents" field) summarizes the current terminology used by the USPSTF to describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF, Guirguis-Blake J, LeFevre M, Harris R, Petitti D; U.S. Preventive Services Task Force. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147(12):871-875. [5 references].

Rating Scheme for the Strength of the Recommendations

What the United States Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read "Clinical Considerations" section of USPSTF Recommendation Statement (see the "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a

certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as: • The number, size, or quality of individual studies • Inconsistency of findings across individual studies • Limited generalizability of findings to routine primary care practice • Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: • The limited number or size of studies • Important flaws in study design or methods • Inconsistency of findings across individual studies • Gaps in the chain of evidence • Findings not generalizable to routine primary care practice • A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Cost Analysis

The U.S. Preventive Services Task Force (USPSTF) does not consider the costs of providing a service in this assessment.

Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Peer Review

Before the U.S. Preventive Services Task Force (USPSTF) makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center (EPC) and the Agency for Healthcare Research and Quality (AHRQ) send the draft evidence review to 4 to 6 external experts and to Federal agencies and professional and disease-based health organizations with interests in the topic. The experts are asked to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. The draft evidence review is also posted on the USPSTF Web site for public comment. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the USPSTF in memo form. In this way, the USPSTF can consider these external comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment among reviewers representing professional societies, voluntary organizations, and Federal agencies, as well as posted on the USPSTF Web site for public comment. These comments are discussed before the final recommendations are confirmed.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from August 18 to September 14, 2015. The USPSTF received requests for clarification about whether high-risk groups, such as current smokers, were included in the systematic review. In response, the USPSTF clarified that both current and former smokers were included in the studies reviewed. However, the lack of stratified results by smoking status limits the USPSTF's ability to make a separate recommendation for screening in persons who are at higher risk for chronic obstructive pulmonary disease (COPD). The USPSTF recognizes that patients who have mild COPD may underreport symptoms. The USPSTF encourages clinicians to offer smoking cessation interventions to all patients who currently smoke and to pursue active case-finding for COPD in patients with risk factors, such as exposure to cigarette smoke or heating fuels, occupational exposure to dusts or chemicals, or a family history of α_1-antitrypsin deficiency.

Comparison with Guidelines from Other Groups

Recommendations for screening from the following groups were discussed: the American College of Physicians, American College of Chest Physicians, American Thoracic Society, European Respiratory Society, the UK National Institute for Health and Care Excellence, and the Global Initiative for Chronic Obstructive Lung Disease.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Benefits of Detection and Early Treatment

The U.S. Preventive Services Task Force (USPSTF) found inadequate evidence that screening for chronic obstructive pulmonary disease (COPD) in asymptomatic persons using questionnaires or spirometry improves health outcomes.

Potential Harms

Harms of Detection and Early Treatment

The U.S. Preventive Services Task Force (USPSTF) found inadequate evidence on the harms of screening. However, given the lack of benefit of early detection and treatment, the opportunity cost associated with screening asymptomatic persons may be large. The amount of time and effort required to screen for chronic obstructive pulmonary disease (COPD) in asymptomatic persons (using screening spirometry with or without prescreening questionnaires) is not trivial.

Qualifying Statements

Qualifying Statements

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific clinical preventive services for patients without obvious related signs or symptoms.
- It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.
- The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence

but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.
- Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality (AHRQ) or the U.S. Department of Health and Human Services.

Implementation of the Guideline

Description of Implementation Strategy

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the USPSTF will make all its products available through its Web site . The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access USPSTF materials and adapt them for their local needs. Online access to USPSTF products also opens up new possibilities for the appearance of the annual, pocket-size *Guide to Clinical Preventive Services*.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

Implementation Tools

Mobile Device Resources

Patient Resources

Pocket Guide/Reference Cards

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

U.S. Preventive Services Task Force. Screening for chronic obstructive pulmonary disease: U.S. Preventive Services Task Force recommendation statement. JAMA. 2016 Apr 5;315(13):1372-7. [18 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2016 Apr 5

Guideline Developer(s)

U.S. Preventive Services Task Force - Independent Expert Panel

Guideline Developer Comment

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the U.S. Preventive Services Task Force do not necessarily reflect policy of the U.S. Department of Health and Human Services (DHHS) or its agencies.

Source(s) of Funding

The U.S. Preventive Services Task Force (USPSTF) is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality (AHRQ) support the operations of the USPSTF.

Guideline Committee

U.S. Preventive Services Task Force (USPSTF)

Composition of Group That Authored the Guideline

*Task Force Members**: Albert L. Siu, MD, MSPH (*Chair*) (Mount Sinai School of Medicine, New York, New York and James J. Peters Veterans Affairs Medical Center, Bronx, New York); Kirsten Bibbins-Domingo, PhD, MD, MAS (University of California, San Francisco); David C. Grossman, MD, MPH (Group Health Research Institute, Seattle, Washington); Karina W. Davidson, PhD, MASc (Columbia University, New York, New York); John W. Epling Jr, MD, MSEd (State University of New York Upstate Medical University, Syracuse);

Francisco A. R. García, MD, MPH (Pima County Department of Health, Tucson, Arizona); Matthew Gillman, MD, SM (Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, Massachusetts); Alex R. Kemper, MD, MPH, MS (Duke University, Durham, North Carolina); Alex H. Krist, MD, MPH (Fairfax Family Practice, Fairfax, Virginia and Virginia Commonwealth University, Richmond); Ann E. Kurth, PhD, CNM, MSN, MPH (Yale School of Nursing, West Haven, Connecticut); C. Seth Landefeld, MD (University of Alabama at Birmingham); Carol M. Mangione, MD, MSPH (University of California, Los Angeles); Diane M. Harper, MD, MPH, MS (University of Louisville, Louisville, Kentucky); William R. Phillips, MD, MPH (University of Washington, Seattle); Maureen G. Phipps, MD, MPH (Brown University, Providence, Rhode Island); Michael P. Pignone, MD, MPH (University of North Carolina, Chapel Hill)

*Members of the Task Force at the time this recommendation was finalized. For a list of current Task Force members, go to http://www.uspreventiveservicestaskforce.org/Page/Name/our-members.

Financial Disclosures/Conflicts of Interest

The U.S. Preventive Services Task Force (USPSTF) has an explicit policy concerning conflict of interest. All members disclose at each meeting if they have a significant financial, professional/business, or intellectual conflict for each topic being discussed. USPSTF members with conflicts may be recused from discussing or voting on recommendations about the topic in question.

Disclosures

All authors have completed and submitted the International Committee of Medical Journal Editors (ICMJE) Form for Disclosure of Potential Conflicts of Interest and none were reported. Authors followed the policy regarding conflicts of interest described at http://www.uspreventiveservicestaskforce.org/Page/Name/conflict-of-interest-disclosures.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Screening for chronic obstructive pulmonary disease using spirometry: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med 2008;148:529-34. [13 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the Journal of the American Medical Association (JAMA) Web site.

Availability of Companion Documents

The following are available:

Evidence Reviews:

- Guirguis-Blake JM, Senger CA, Webber EM, Mularski RA, Whitlock EP. Screening for chronic obstructive pulmonary disease: evidence report and systematic review for the U.S. Preventive Services Task Force. JAMA. 2016 Apr 5;315(13):1378-93.
- Guirguis-Blake JM, Senger CA, Webber EM, Mularski R, Whitlock EP. Screening for chronic obstructive pulmonary disease: a systematic evidence review for the U.S. Preventive Services Task Force. Evidence Synthesis No. 130. AHRQ Publication No. 14-05205-EF-1. Rockville (MD): Agency for Healthcare Research and Quality; 2016 Apr. 205 p.

Available from the U.S. Preventive Services Task Force (USPSTF) Web site.

Background Articles:

- Barton MB et al. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. Ann Intern Med 2007;147:123-7.
- Guirguis-Blake J et al. Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation

development. Ann Intern Med 2007;147:117-22.
- Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med 2007;147:871-5.

Available from the USPSTF Web site.

The following is also available:

- Screening for chronic obstructive pulmonary disease: clinical summary. Rockville (MD): U.S. Preventive Services Task Force. 2016 Apr. 1 p. Available from the USPSTF Web site.
- A continuing medical education (CME) activity is available from the Journal of the American Medical Association (JAMA) Web site.

The Electronic Preventive Services Selector (ePSS) is an application designed to provide primary care clinicians and health care teams timely decision support regarding appropriate screening, counseling, and preventive services for their patients. It is based on the current, evidence-based recommendations of the USPSTF and can be searched by specific patient characteristics, such as age, sex, and selected behavioral risk factors.

Patient Resources

The following are available:

- Screening for chronic obstructive pulmonary disease. Understanding Task Force recommendations. Rockville (MD): U.S. Preventive Services Task Force. 2016 Apr. 3 p. Available from the U.S. Preventive Services Task Force (USPSTF) Web site.
- Screening for chronic obstructive pulmonary disease. JAMA patient page. JAMA. 2016 Apr 5;315(13):1419. Available from the Journal of the American Medical Association (JAMA) Web site.

Myhealthfinder is a tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations from the USPSTF and is available at www.healthfinder.gov.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on February 27, 2008. The information was verified by the guideline developer on March 4, 2008. This summary was updated by ECRI Institute on May 9, 2016. The updated information was verified by the guideline developer on June 17, 2016.

Copyright Statement

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ„¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion-criteria.aspx.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.